

WHAT IS CLAIMED IS:

1. A method for detecting at least a first isoprenylated protein in a cell comprising:
 - a) obtaining a synthetic isoprenyl azide substrate of at least a first protein in said cell;
 - b) contacting the cell under conditions wherein the cell takes up and incorporates into the protein at least a first azide from the substrate; and
 - c) detecting at least said first protein from proteins produced by said cell with a phosphine capture reagent by the Staudinger reaction.
2. The method of claim 1, wherein the protein is farnesylated.
3. The method of claim 1, wherein detecting comprises isolating the first protein.
4. The method of claim 2, wherein FPP is inhibited in said cell.
5. The method of claim 4, wherein FPP is inhibited by contacting the cell with an HMG Co-A reductase inhibitor.
6. The method of claim 4, wherein FPP is inhibited by contacting the cell with lovastatin.
7. The method of claim, where in the prenyl azide is further defined as an azido prenyl diphosphate.
8. The method of claim, where in the isoprenyl azide is further defined as an azido isoprenyl alcohol.
9. The method of claim 1, wherein the isoprenyl azide is further defined as an azido farnesyl diphosphate.
10. The method of claim 1, wherein the isoprenyl azide is further defined as an azido farnesyl alcohol.

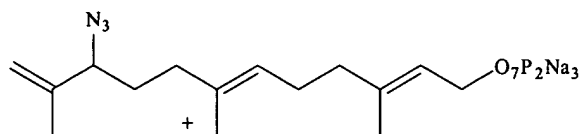
11. The method of claim 1, wherein the first protein is native to said cell.
12. The method of claim 1, wherein the step of detecting comprises Western blot analysis
13. The method of claim 1, wherein the phosphine capture reagent is bound to a solid support.
14. The method of claim 13, wherein the phosphine capture reagent is bound to a solid support with a photocleavable linker.
15. The method of claim 1, wherein the phosphine capture reagent comprises a label.
16. The method of claim 15, wherein the label comprises a fluorescent, colorimetric, chemiluminescent, or radioactive label.
17. The method of claim 15, wherein the label comprises an antigen.
18. The method of claim 17, wherein the antigen is biotin.
19. The method of claim 18, wherein detecting comprises affinity-purification with streptavidin- and/or avidin-conjugated beads.
20. The method of claim 13, wherein the solid support comprises a bead composed of silica gel, polystyrene, starch, sugars, or organic or inorganic matrixes.
21. The method of claim 1, wherein a nucleophile in said Staudinger reaction is immobilized on a polymer.

22. The method of claim 21, wherein the polymer is selected from the group consisting of: mono-methyl polyethylene oxide, sepharose, tentagel, agrogel-Wang, polysaccharide, polystyrene, polyethane, and co-polymers thereof.

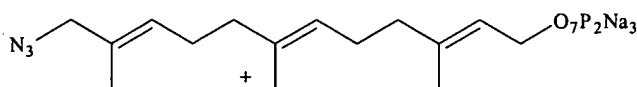
23. The method of claim 1, wherein the synthetic prenyl azide substrate is a substrate for a plurality of proteins and wherein the step of detecting comprises detecting the plurality of proteins.

24. The method of claim 1, wherein the prenylated protein is Ras.

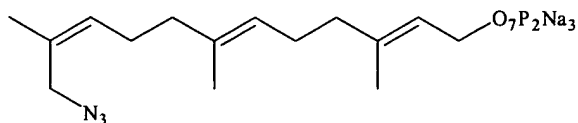
25. The method of claim 1, wherein the substrate has the molecular formula:



26. The method of claim 1, wherein the substrate has the molecular formula:



27. The method of claim 1, wherein the substrate has the molecular formula:

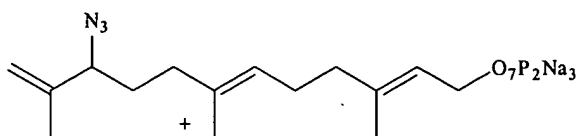


28. A method for labeling a protein in a cell, comprising:

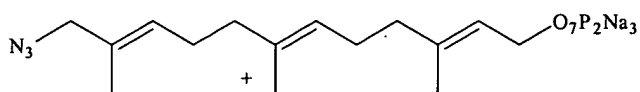
- a) preparing a synthetic substrate of said protein comprising at least a first azide; and
- b) contacting the cell under conditions wherein the synthetic substrate is taken up and incorporated into the protein and wherein the protein is labeled with said first azide.

29. The method of claim 28, wherein the synthetic substrate is prenylated.

30. A compound having the molecular formula:



31. A compound having the molecular formula:



32. A compound having the molecular formula:

